

A new isidiate species of *Graphis* (lichenised *Ascomycotina*) from China*

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Abstract — This paper describes a third isidiate species with trans-septate spores in the genus *Graphis* sensu Staiger. The new species is from Guangdong Province of China. It is characterized by an isidiate thallus, a completely carbonized exciple with entire lips, trans-septate ascospores, and the absence of lichen substances.

Key words — *Graphis guangdongensis*, *Graphidaceae*, *Ostropales*, *Ascomycota*

Introduction

The members of the *Graphidaceae* (*Ostropales*, lichen forming fungi) are widely distributed in pantropical areas of the world. In the genus *Graphis*, sensu Staiger (Staiger 2002), there are two known isidiate species with trans-septate spores, viz. *G. patwardhanii* C.R. Kulk. 1978 and *G. isidiza* Adaw. & Makhija (Adawadkar & Makhija 2004).

The new isidiate species of the genus, which differs from the two species mentioned above, was collected in China and is described as new to science in the present paper.

Material and methods

The material examined was collected from Guangdong in southern China. A dissecting microscope (TECH XTS-20 and AIGO Digital Viewer GE-5) and a

* The project was supported by the National Natural Science Foundation of China (No. 39899400).

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compound microscope (OLYMPUS CHB-213) were used for the morphological and anatomical studies. Measurements and illustrations were taken from manual cross-sections of lirellae in tap water. The chemistry was determined by thin-layer chromatography (TLC) (Culberson & Kristensson 1970, Culberson 1972, White & James 1985).

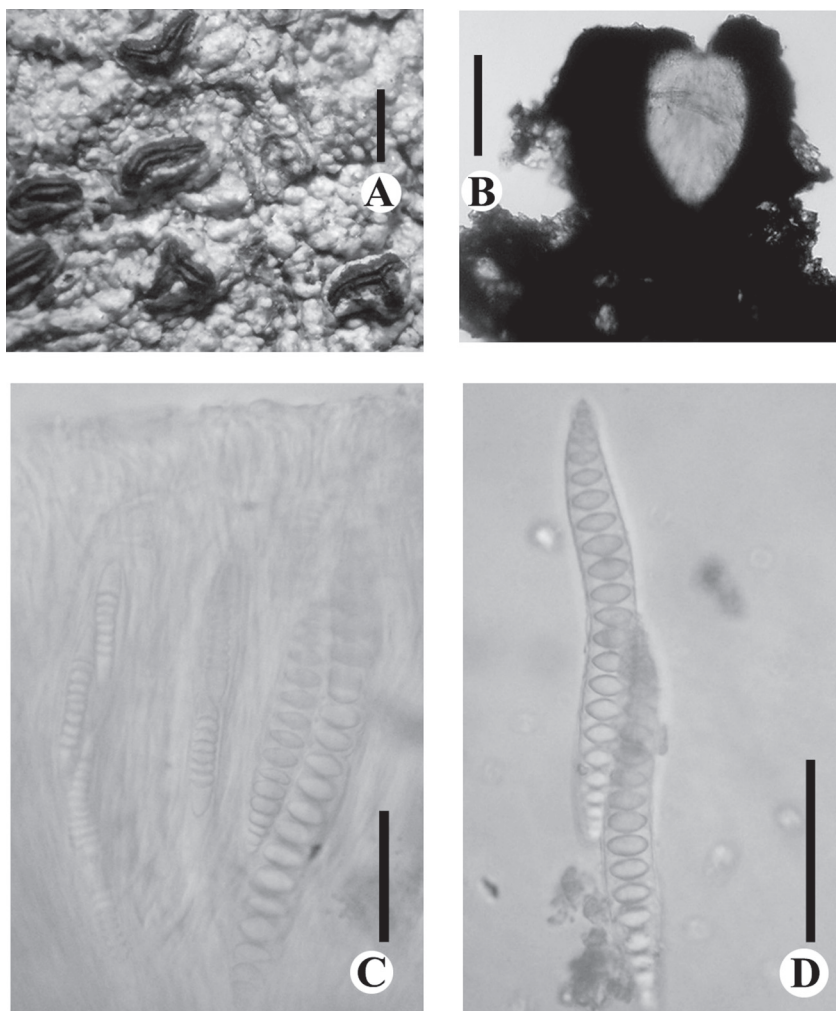


FIG. 1 *Graphis guangdongensis*. A. Habit (bar =1mm); B. A cross section of an apothecium (bar =100 mm); C. An ascus containing ascospores (bar = 50μm); D. Ascospores (bar = 50 μm).

Taxonomy

Graphis guangdongensis Z.F. Jia & J.C. Wei, sp. nov.

FIGURE 1

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Species nova G. patwardhanii similis sed excipulo omnino carbonaceo et labello integro differt.

HOLOTYPE: CHINA. provincia Guangdong, comitatus Fengkai, Heishiding, 23°27'N, 113°30'E, alt. 250 m, in cortice arboris latifoliae. X/28/1998. coll. Shou-Yu Guo 2185 (holotypus in HMAS-L X024581, isotypus in LHS).

ETYMOLOGY: The specific epithet "guangdongensis" refers to the place name of the province Guangdong, China, the type locality of the new species.

THALLUS corticolous, pale white to milky white, unevenly thickened, tightly attached to the substratum, distinctly isidiate. Isidia small, globose, or more or less digitiform, 100–150 µm tall. APOTHECIA elongate, 0.5–2.5 mm long, 0.25–0.3 mm wide, simple or rarely slightly branched, erumpent, black, curved and straight, rounded to pointed at the ends, not striate, scattered over the thallus. PROPER EXCIPLE conspicuous, completely carbonized. EPITHECIUM 8–10.5 µm thick, grayish. HYPOTHECIUM brownish, 20–41.5 µm tall HYMENIUM colorless, clear, 160–190 µm tall, I–. PARAPHYSES unbranched, filiform, septate, up to 1.5 µm wide ASCI cylindrical, 110–132 × 22–33 µm, 2–4-spored. ASCOSPORES colourless, long fusiform, 18–20 transverse septate, (65–)75–110 × (8–)11–15.5 µm, I+ blue.

CHEMISTRY: C–, K–, P–; no lichen compounds detected.

REMARKS: The new species is similar to both *Graphis patwardhanii* and *G. isidiza* in having an isidiate thallus and producing trans-septate spores. *Graphis patwardhanii* differs in having a laterally carbonized, 3–6-striate exciple while *G. isidiza* has smaller (21–34 × 4–8 µm) ascospores and contains the lichen compounds constictic acid and stictic acid (Adawadkar & Makhija 2004). *Graphis guangdongensis* is so far known only from the type material.

Acknowledgments

The authors are grateful to Dr. Alan W. Archer and Dr. Urmila Makhija for reading and giving valuable comments and suggestions.

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